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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/551,890

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Raymond Brian Brosseuk

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MERCHANT & GOULD PC  
P.O. BOX 2903  
MINNEAPOLIS, MN 55402-0903

EXAMINER

KUMAR, KALYANA VENKA K

ART UNIT

PAPER NUMBER

3653

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/551,890	<b>Applicant(s)</b> BROSSEUK ET AL.	
	<b>Examiner</b> KALYANA VENKATESHWAR KUMAR	<b>Art Unit</b> 3653	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 23-35, 37-46, 48 and 49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-35, 37-46, 48 and 49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 23-35 and 37-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Blake (US 964,083)** in view of **Rohr et al. ("Rohr") (US 6,059,120)**, **Newman et al. ("Newman") (US 4,962,858)** and **Adams (US 409,091)**.

3. Blake (Fig. 1-2) teaches a heavy particle separation apparatus and a method of heavy particle separation, including a tiltable transverse belt (G) concavely shaped in its central area, and including a spiral rib (Fig. 2; p. 1 teaching riffles or spiral grooves) having any suitable pitch provided on the belt outer surface, the rib being adapted to urge material upwardly along the transverse belt, a material feeder means (chutes L, K) provided above the transverse belt, a water spray system (M) also provided above the transverse belt, a plurality of idler rollers (H), and respective troughs (Fig. 1, near N and near cup behind apparatus) and moving particles transversely to the belt movement (p. 2, lines 36-45), fluidizing the particles so that light particles are scoured off from its upper layer and heavy particles are drawn back toward the upper end of the belt (Id.), providing increased retention time for material on the belt resulting in repetitive and more accurate evaluation of the relative densities of the particles (Id.), discharging each

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of the groups at an opposite end of the belt at exit points located at 180° relative to each other (O and discharge generally near E).

4. Blake as set forth above teaches all that is claimed except for a variable concave profile in the belt and expressly teaching a preliminary separation stage including the steps of adding water to the feed material, scrubbing, size classification and transportation to the primary separation stage and a differential transportation step designed to separate heavy, medium and light particles before introduction to the primary separation stage and a secondary separation stage including a suitable sluice box to separate fine heavy material including retaining or retention modules mounted on a suitable conveyer means and being removable in continuous fashion for collection of heavy particles and varying the rib/groove height or depth. These features, however, are well-known in the sorting arts. For instance, Rohr teaches a preliminary separation stage as claimed (Fig. 1-4, 6, 8 near chute 4; col. 3). Newman teaches a secondary separation stage including retention modules (Fig. 2, near 23). Adams teaches that grooves or ribs can be continuous around a belt (Fig. 1, near B). Further, it would be obvious to one with ordinary skill in the art to modify the base reference with these prior art teachings to arrive at the claimed invention. The rationale for this obviousness determination can be found from an analysis of the prior art teachings. Here, the modification to arrive at the claimed invention would merely involve the substitution/addition of well-known elements with no change in their respective functions (i.e., feeding chute). Moreover, the use of prior art elements according to their functions is a predictable variation that would yield predictable results, and thus cannot be

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regarded as a non-obvious modification when the modification is already commonly implemented in the prior art. Further, the use of a second separation stage provides the common-sense benefit of a finer separation. Further, the mere adjustment of well known features, such as groove or idler roller height or the profile of the concave belt or pre-classification to a specific size, are regarded as obvious modifications based on the design incentives and/or economic considerations involved in this type of subject matter. Further, the prior art discussed and cited demonstrates the level of sophistication of one with ordinary skill in the art and that these modifications would be well within this skill level. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Blake for the reasons set forth above.

5. Regarding claims 48 and 49, Blake discloses the variable concave profile of the belt is progressively adjustable from a first position, wherein the belt is cross-sectionally symmetrical, to a second position, wherein the belt is cross-sectionally asymmetrical (see Fig. 1, elements H; movement of the idle rollers H would be capable of changing the top of the cross-section profile from a first position that is symmetric to a cross-section profile second position that is asymmetric).

6. Regarding claims 36 and 47, the claims have been canceled.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 23-35 and 37-46 have been considered but are moot in view of the new ground(s) of rejection.

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8. **Rejections under USC 101 and 112**

9. Regarding rejections under USC 101 and 112, the rejections are withdrawn due to Applicant's amendment and argument.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

11. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan Kumar whose telephone number is 571-272-8102. The examiner can normally be reached on Mon-Fri 7:00AM-3:30PM.

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13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on 571-272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick Mackey/  
Supervisory Patent Examiner, Art  
Unit 3653

Kalyan Kumar

Examiner

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